REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested.

I. STATUS OF THE CLAIMS

None of the claims are amended herein.

In view of the above, it is respectfully submitted that claims 2, 3, 5 and 7 are currently pending and under consideration in the present application.

II. REJECTION OF CLAIMS 2, 3, 5, AND 7 UNDER 35 U.S.C. §103(A) AS BEING UNPATENTABLE OVER KANDEL ET AL. (U.S. 6,353,671) IN VIEW OF IBM TECHNICAL DISCLOSURE BULLETIN (IBM)

The present invention as recited in claim 2, relates to an acoustic signal processor which comprises "a detector detecting a frequency band having a highest energy level among frequency bands comprising the acoustic signals input into the input unit." The acoustic signal processor also includes "a variable equalizer maintaining the energy level of the acoustic signals input into the input unit substantially at a constant level for frequency bands lower than the frequency band detected by the detector, and increasing the amplification degree of the energy level of the acoustic signals input into the input unit as the frequency increases for the frequency bands higher than the frequency band detected by the detector, wherein the variable equalizer has a 6 db/octave high pass filter characteristic."

The Examiner asserts, "Kandel et al. does not explicitly disclose a detector, a variable equalizer, or a 6db/octave high pass filter characteristic. However, Kandel et al. discloses that amplifier 114 amplifies second formant but does not pass first formants. One skilled in the art would be recognized that some detection must take place in order to determine the first formant and higher formants to pass" (in item 2, on page 3, lines 10-14 of the Office Action).

In contrast to the Examiner's assertions, Kandel does teach a detector. That is, a narrow band filter 115 and an amplitude demodulator 116 correspond to a detector detecting first formants (see FIG. 4 of Kandel). In column 10, lines 16-23, Kandel teaches, [the] signal tone T is extracted by a narrow band filter and fed forward through an amplitude demodulator 116, which is also a low pass filter. The output of the demodulator 116 determines the gain of the amplifier 114. The overall airpath sounds and device feedback thereby control the gain of the amplifier 114. The amplifier 114 preferably passes all second formant frequencies but does not

pass signal T."

The term "detector" is not used, but the narrow band filter 115 extracts the signal tone T and the output of the demodulator 116 determines the gain of the amplifier 114. In other words, the demodulator 116 detects the level of the signal tone T extracted by the narrow band filter 115. Thus, the narrow band filter 115 and the demodulator 116 correspond to the detector.

Further, the frequency of the signal tone T extracted by the narrow band filter is a predetermined fixed frequency, which is approximately 6000Hz. Kandel also teaches that "[t]he output of filter 115A is fed into a mixer 116A where it is combined with the output of amplifier 122 and with a local injected signal tone T, whose frequency is approximately 6000Hz in this embodiment" in column 9, lines 17-20.

In light of the above, it is submitted that the object of the detection is different between the present invention and Kandel. The detector of the present claimed invention (see claim 2) detects a frequency band having a highest energy level of the input acoustic signal, which is variable depending on the input acoustic signal. Kandel, however, teaches the narrow band filter 115 and demodulator 116 detect a predetermined fixed frequency but does not detect a frequency band having a highest energy level of the input acoustic signal. The frequency of the signal tone T of Kandel is not a frequency band having a highest energy level.

Further, although the gain amplifier 114 amplifies second formant frequencies passing therethrough, the amplified frequency range is not variable and only the gain is controlled (see column 9, lines 5-13 of Kandel). In the present invention, the frequency range amplified by the variable equalizer is variable because the frequency band having a highest energy of the input acoustic signal is variable (see claim 2). Kandel fails to teach or suggest the features recited in claim 2 of the present invention.

Similar to claim 2, claims 3, 5, and 7 also recite an acoustic signal processor, which comprises "a detector detecting a frequency band having a highest energy level among frequency bands comprising the acoustic signals input into the input unit" and "a variable equalizer maintaining the energy level of the acoustic signals input into the input unit substantially at a constant level for frequency bands lower than the frequency band detected by the detector, and increasing the amplification degree of the energy level of the acoustic signals input into the input unit as the frequency increases for the frequency bands higher than the frequency band detected by the detector." It is submitted that Kandel also fails to teach or suggest the features recited in claims 3, 5, and 7 of the present invention.

The IBM reference teaches a speech recognition system, but fails to teach or suggest

the claimed detector and variable equalizer as recited in claims 2, 3, 5, and 7 of the present invention. It is submitted that Kandel and the IBM reference, either alone or in combination, do not teach the features recited in claims 2, 3, 5, and 7 of the present invention.

In view of the above, it is respectfully submitted that the rejection is overcome.

II. CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that each of the claims patentably distinguishes over the prior art; and therefore defines allowable subject matter. A prompt and favorable reconsideration of the rejection along with an indication of allowability of all pending claims are therefore respectfully requested.

If there are any additional fees associated with filing of this Response, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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